

ADS-B Approved for Air Traffic Separation in Alaska; Studies Prove ADS-B More Accurate than Radar

The FAA achieved a major milestone May 31 when the FAA's aviation safety organization declared that ADS-B can be used operationally for air traffic control in Alaska, helping pave the way for its introduction into the national airspace. The evaluations that made this possible also confirmed that ADS-B performs as promised, providing highly accurate surveillance data and a better level of safety than radar surveillance.

The results came from an extensive technical analysis of ADS-B in Alaskan airspace performed by the FAA's Surveillance and Broadcast Services Separation Standards Work Group, a team that included members from the FAA's Air Traffic Organization, Aircraft Certification, and Flight Standards offices; and from Johns Hopkins University, DOT/Volpe, MIT/Lincoln Laboratories, and Mitre.

The team's objective was to determine whether separation performance using ADS-B was equal to, or better, than using traditional secondary surveillance radars in support of a 5NM separation minimum. To do this, the group analyzed data from the MEARTS (Microprocessor En Route Automated Radar Tracking System) in cases where one air traffic target came from a radar return and the other came from ADS-B. It also analyzed cases in which both targets came from the same source, whether from ADS-B or radar.

The team analyzed live traffic data collected by the MEARTS automation system from nearly 500,000 ADS-B-to-ADS-B reports and 200,000 radar-to-ADS-B reports. It also studied ADS-B and radar performance data from dedicated flight tests, in addition to other separation error modeling and simulation analyses.

The evaluation found that over 96 percent of ADS-B data had at least 10 times better accuracy and integrity than the minimum required to support today's separation standards. It also showed that using ADS-B for separation provides a better level of safety than radar-to-radar separation with a lower risk of separation loss between aircraft.

In addition to forming the basis for sanctioning ADS-B's use for a 5-nautical-mile enroute separation standard in Alaska, these studies will also be adapted to evaluate the ADS-B system as it is deployed across the nation.

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